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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,614	08/19/2003	Ramesh Raskar	MERL-1483	4946

7590 12/17/2004

Patent Department
Mitsubishi Electric Research Laboratories, Inc.
201 Broadway
Cambridge, MA 02139

EXAMINER

FUREMAN, JARED

ART UNIT	PAPER NUMBER
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2876

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/643,614

Applicant(s)

RASKAR, RAMESH

Examiner

Jared J. Fureman

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Receipt is acknowledged of the preliminary amendment, filed on 8/2/2004, which has been entered in the file. Claims 1-20 are pending.

Claim Objections

1. Claims 13 and 14 are objected to because of the following informalities: Claims 13 and 14, line 1: "the OF transceiver" lacks proper antecedent basis. For examination purposes, claims 13 and 14 have been interpreted so as to refer to the optical transceiver. Appropriate correction is required.
2. Claim 19 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 19 appears to be an attempt to broaden the scope of what is recited in claim 18.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cato (US 5,874,724).

Cato teaches an identification tag (104) and identification method comprising: a memory (116) storing an identification code (identifying information, see column 6 lines

21-23); an optical communication part (106) for receiving a predetermined optical signal; and a radio communication part (112 and 114) for transmitting the identification code stored in the memory when receiving the predetermined optical signal by the optical communication part; operating at least one of the communication parts (the optical communication part 106) in receive mode while operating at least one of the communication parts (the radio communication part 112 and 114) in transmit mode; and transmitting the identification code by the communication parts operating in the transmit mode in response to receiving a predetermined signal by the communication parts operating in the receive mode; an optical communication part (202, 208, 210, and 212) transmitting a predetermined optical signal; and a radio communication part (120 and 122) receiving an identification code transmitted when receiving the predetermined optical signal by an identification tag (see figure 1, column 2 lines 30-44, column 3 lines 13-34, column 3 line 60 - column 4 line 40, column 6 lines 8-26, column 7 lines 40-57).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brick et al (US 6,269,342) in view of Cato.

Brick et al teaches an identification tag (330) in a form of a single microcircuit, and an identification method comprising: an optical transceiver (338A); a radio

transceiver (338B); a memory (334) storing an identification code (tag ID) connected to the optical transceiver and the radio transceiver; means (control unit 332) for operating at least one of the transceivers in receive mode while operating at least one of the transceivers in transmit mode; in which the identification code includes one or more dates (the tag ID is associated with price effective dates); means (control unit 332) for operating at least one of the transceivers in receive mode and transmit mode while operating the other transceivers in receive mode and transmit mode; means for synchronizing the transmitting and receiving according to receiving light; (see figure 10, column 10 line 61 - column 11 line 10, column 12 line 34 - column 13 line 34).

Brick et al fails to specifically teach means for transmitting the identification code by the transceiver operating in the transmit mode in response to receiving a predetermined signal by the transceiver operating in the receive mode; means for synchronizing the transmitting and receiving according to receiving light.

The teachings of Cato have been discussed above. Cato also teaches means for synchronizing the transmitting and receiving according to receiving light (the tag will only transmit the radio signal and respond to received radio signals after receiving the light signal).

In view of Cato's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the tag as taught by Brick et al, means for transmitting the identification code by the transceiver operating in the transmit mode in response to receiving a predetermined signal by the transceiver operating in the receive mode; means for synchronizing the transmitting and receiving

according to receiving light; in order to provide greater flexibility in communicating with the tags and preserve power consumption (see column 7 lines 40-47, of Cato).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brick et al as modified by Cato further in view of Gloton (US 5,635,701).

The teachings of Brick et al as modified by Cato have been discussed above.

Brick et al as modified by Cato fails to specifically teach the optical transceiver including a single photodiode configured to transmit and receive light signals.

Gloton teaches the use of an optical transceiver including a single photodiode configured to transmit and receive light signals (see column 3, lines 19-20).

In view of Gloton's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the tag as taught by Brick et al as modified by Cato, the optical transceiver including a single photodiode configured to transmit and receive light signals; in order to reduce the number of components. Furthermore, Gloton teaches that the use of a single transmitter-and-receiver diode is an art recognized functional equivalent to the use of separate transmitter and receiver diodes (see column 3 lines 19-21, of Gloton).

8. Claim 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brick et al as modified by Cato further in view of Beigel et al (US 6,784,788).

The teachings of Brick et al as modified by Cato have been discussed above.

Brick et al also teaches the tag including a battery (336) for powering the tag.

Brick et al as modified by Cato fails to specifically teach the radio transceiver including an antenna formed as an induction coil; the induction coil acquires power for the optical transceiver; and means for storing the power.

Beigel et al teaches a tag including a radio transceiver including an antenna formed as an induction coil; the induction coil acquires power for the tag; and means (a battery) for storing the power (see column 4 lines 11-14).

In view of Beigel et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the tag as taught by Brick et al as modified by Cato, the radio transceiver including an antenna formed as an induction coil; the induction coil acquires power for the optical transceiver; and means for storing the power; in order to recharge the battery, thereby reducing the need to replace batteries in the tags.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koenck et al (US 5,825,045), Yerbury et al (US 5,134,277), Woolley et al (US 5,774,876), Faita (US 5,929,770), Miura (US 6,036,348), and Lundholm et al (US 6,782,208) all teach identification tags or communication devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (571) 272-2391. The examiner can normally be reached on 7:00 am - 4:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jared J. Fureman
Jared J. Fureman
Examiner
Art Unit 2876

December 11, 2004